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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,273	08/25/2000	Dan Adamski	2204/A17	5875

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EXAMINER

NGUYEN, HANH N

ART UNIT PAPER NUMBER

2662

DATE MAILED: 09/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/648,273

Applicant(s)

ADAMSKI ET AL.

Examiner

Hanh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Application filed on 6/28/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13,15,18-21,23 and 24 is/are rejected.
- 7) ☒ Claim(s) 14,16,17 and 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 1 and 9 are objected to because of the following informalities:

According to specification on page 9, lines 28-30 and Fig.7, the data forwarding module claimed in claims 1 and 9, is not in active line card. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 5-10, 12, 13, 15, 18-21, 23 and 24 are rejected under 35 USC 103(a) as being unpatentable over Ayandeh (US Pat. 6,069,895) in view of Kicklighter (US Pat. No. 6,005,841).

In claims 1, 5, 9, 12 and 18, Ayandeh discloses a route server 40 (a router), in Fig.2, which comprises a plurality of line cards 48 connected to a switch fabric 42 (a plurality of line cards connected to the communication fabric). See col.7, lines 1-7. Each of line cards 48 comprises a routing table (path table), a forwarding engine (a data forwarding module). Line cards download copies of the routing table from controller 46 (path tables in each line card is cloned). See col.7, line 62 to col.8, line 5. The forwarding engine uses routing information in the routing table to forward an inbound traffic through the switching fabric between line cards. See col.6, lines 7-10 (a data forwarding table directs external received message through fabric between line cards). Ayandeh does not disclose a protection line card. Kicklighter discloses, in

Fig.1, a switch comprising an active line card copying its configuration and call processing information to a standby line card to ensure that the standby line card will become active in operating state if the active line card is out of service. See Abstract & col.2, lines 10-20 & lines 40-45. Therefore, it would have been obvious to one ordinary skill in the art to configure one of line cards in Ayandeh as a standby line card which comprises copy of routing table so that when one of the remaining line cards fails, the standby line card will become active and forward messages between line cards in a router.

In claim 24, Ayandeh discloses most of limitations in claim 1. In addition, Ayandeh discloses the line cards 48 are equipped with processors and memory to execute programs relating to routing function (a computer usable medium having computer readable program executed for routing). See col.7, lines 20-25.

In claims 3, 6, 7, 8, 13, 19, 20 and 21, the limitations of these claims have been addressed in claims 1, 5, 9, 12 and 18.

In claims 2 and 10, Ayandeh does not disclose adding an address to a slot corresponding to the protection line card. Kicklighter discloses, in Fig.4, a data card slot number identifying which packet card to become active and standby. See col.6, lines 40-45. Therefore, it would have been obvious to one ordinary skill in the art to configure card slot numbers, each corresponding to a line card in the backplane 44 of Ayandeh to identify active and standby line cards.

In claims 15 and 23, Ayandeh discloses line card inputs 50 and outputs 52 with physical addresses (physical card interfaces of line cards, col.7, lines 1-8), but does not explicitly disclose disabling active line card physical card interface and enabling the protection line card physical card interface. Kicklighter discloses in the event of a failure of an input/output card 20 (disable

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active line card physical interface), a redundant input/output card 22 (enabling protection line card physical interface) is provided to permit continued operation of the switch (col.3, lines 15-22). Therefore, it would have been obvious to one ordinary skill in the art to disable a physical I/O interface of a failed card and select another physical I/O interface of another line card in Ayandeh to route traffic via other line card and prevent interruption.

Claims 4 and 11 are rejected under 35 USC 103(a) as being unpatentable over Ayandeh (US Pat. 6,069,895) in view of Kicklighter (US Pat. No. 6,005,841), and further in view of Yasue et al. (US Pat. No. 6,611,409 B1).

In claims 4 and 11, Ayandeh discloses a backplane bus 44 connecting line cards 48 (a bus connecting the plurality of line cards). See col.6, lines 50-65. Ayandeh does not disclose the active line card sends a period signal to the protection line card. Yasue et al. discloses, in Fig.9, when operating module 26 (active line card) fails, a protection signal line A is switched to an auxiliary module 30 (standby line card). See col.5, lines 20-35. Therefore, it would have been obvious to one ordinary skill in the art to transmit a periodic signal on the backplane bus between line cards in Ayandeh in order to select the standby line card to work as an active line card.

Allowable Subject Matter

Claims 14, 16, 17 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

In claim 14, the prior art does not disclose revising protection association information stored in line cards of the second router such that messages directed through a fabric of the

second router to the active line card in the second router are also directed to said protection line card in the second router.

In claims 16 and 22, the prior art does not disclose the act of detecting comprises failing to detect an expected periodic heartbeat signal from the active line card.

In claim 17, the prior art does not disclose adding a header with data with data from descriptors to a message so that the message is directed to said protection line card.

Response to Arguments

Applicant's arguments with respect to claims 1-13, 15, 18-21, 23 and 24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sha et al. (US Pat. No. 6,574,686 B1) discloses Method for Overcoming Faults in an ATM I/O Module and Lines Connected Thereto.

Gupta et al. (US Pat. No. 5,787,070) discloses One for N Redundancy in a Communication System.

Nakamura et al. (US pat. No. 6,553,031 B1) discloses Communication Node Apparatus with Routing Tables in Cache Memories.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Nguyen whose telephone number is 571 272 3092. The

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examiner can normally be reached on Monday-Friday from 8AM to 6PM. The examiner can also be reached on alternate

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on 571 272 3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hanh Nguyen


September 22, 2004